

IN THE CLAIMS

1. (Currently amended) A method for the manufacture of a conductive polymer composite, comprising

impregnating a polymer with ~~a~~an oxidative catalyst in a vapor phase, said catalyst effective for the polymerization of polypyrrole, wherein impregnating is solventless in the absence of a volatile organic solvent; and

exposing the impregnated polymer to a pyrrole-containing monomer vapor to form a conductive polymer composite.

2. (Original) The method of claim 1, wherein the pyrrole-containing monomer vapor comprises pyrrole or pyrrole and N-methyl pyrrole.

3. (Original) The method of claim 1, wherein the composite has a conductivity of about 10^{-7} to about 10^{-1} S/cm inclusive.

4. (Original) The method of claim 1, wherein impregnating is by exposing the polymer to iodine vapor.

5. (Canceled)

6 [[7]]. (Currently amended) The method of claim 1, wherein the polymer is a foam.

7 [[8]]. (Currently amended) The method of claim 1, wherein the polymer is a polyurethane, a polybutadiene, or a styrene-butadiene copolymer.

8 [[9]]. (Currently amended) A method for the manufacture of a conductive polymer composite, comprising

impregnating a polymer with a vaporous halogen in the absence of a volatile organic solvent and in the absence of supercritical carbon dioxide; and

exposing the ~~treated polyurethane foam~~ impregnated polymer to a pyrrole-containing monomer vapor to form a conductive polymer composite.

9 [[10]]. (Currently amended) The method of claim 8 [[9]], wherein the pyrrole-containing monomer vapor comprises pyrrole or pyrrole and N-methyl pyrrole.

10 [[11]]. (Currently amended) The method of claim 8 [[9]], wherein the composite has a conductivity of about 10^{-7} to about 10^{-1} S/cm, inclusive.

11 [[12]]. (Currently amended) The method of claim 8 [[9]], wherein the impregnating is by exposing the polymer to iodine vapor.

12 [[13]]. (Currently amended) The method of claim 8 [[9]], wherein the polymer is a foam.

13 [[14]]. (Currently amended) The method of claim 8 [[9]], wherein the polymer is a polyurethane, a polybutadiene, or a styrene-butadiene copolymer.

14 [[15]]. (Withdrawn) A conductive elastomeric foam composite, formed by the method of claim 1.

15 [[16]]. (Withdrawn) The conductive composite of claim 14 [[15]], wherein the composite has a conductivity of about 10^{-7} to about 10^{-1} S/cm, inclusive.

16 [[17]]. (Withdrawn) A conductive elastomeric foam composite, formed by the method of claim 8 [[9]].

17 [[18]]. (Withdrawn) The conductive composite of claim 16 [[17]], wherein the composite has a conductivity of about 10^{-7} to about 10^{-1} S/cm, inclusive.

18 [[19]]. (Withdrawn) A conductive polymeric composite comprising a host polymer and a polypyrrole, wherein the composite has a conductivity of about 10^{-7} to about 10^{-1} S/cm inclusive, and further wherein the surface conductivity of a first side is within an order of magnitude of a surface conductivity of a second side parallel to the first side.

19 [[20]]. (Withdrawn) The composite of claim 18 [[19]], wherein the surface conductivity of the first side is within 50% of the surface conductivity of the second side.

20 [[21]]. (Withdrawn) The composite of claim 18 [[19]], wherein the surface conductivity of the first side is within 20% of the surface conductivity of the second side.

21 [[22]]. (Withdrawn) The composite of claim 18 [[19]], wherein the surface conductivity of the first side is within 10% of the surface conductivity of the second side.